

Hirschfeld

"The Hirschfeld case can be read for the proposition that there is a balancing test to determine sufficient disclosure," Sterne said. "On one side the court puts the complexity of the technology being disclosed and claimed. On the other side the court puts the amount of time that would be required by one having ordinary skill in the art to take the application and reproduce the disclosed and claimed invention. Thus, under this balancing approach, the more complex a system, the more time that would be allowed before insufficient disclosure is found to exist. Thus, in a very simple invention, only a day or two of work may be allowed."

Sterne made it very clear that "a drafter should always err on the side of disclosure by including additional information if in doubt in a given export system or AI patent situation."

regarding enablement and description requirements,

The fluid knowledge base ~~is a~~ will present critical element, that ~~will become a~~

significant ^{of AI} patent law problem,

Sterne predicted - "Typically, the knowledge base is organized lists whose contents are changing over time. I predict that the dynamic nature of this critical element of AI and expert system technology will be a significant patent law problem. It remains to be seen how it will be resolved.

box

Copyright Law Protection

In a series of Court of Appeal decisions between 1982 and 1984, ~~the~~ Copyright law established protection against literal copying of computer software in source or object code regardless of the storage media.

Copyright Office Proposed Rules on Abbreviated Deposit to Preserve Trade Secret Status, See Sept. 30
Federal Register

Considering ^{the} fluid knowledge base, →

There are two copyright issues: copyrightability and ~~the~~ deposit.

~~for my~~

See Sterne Electronic v. Kaufman, Judge

Neumann

NEUMANN of the Second Circuit held that video game sequences ~~were~~ ^{were} copyrightable

as audio-visual works even though player participation could cause a large number of

defined changes in the video display sequence.

Judge Neumann noted that there was enough specificity in the images and their possible sequences to grasp what the work was.

"If the changes to the knowledge base are permanent, then we have a standard derivative work situation. The permanent changes to the knowledge base constitute a derivative work."

Sterne also said that

* The Copyright Office does not know what a suitable deposit scheme is for fluid databases. "They are currently investigating this very question. To do this, they have formed the Database Study group.

"One possible deposit approach would be to accept every three months a deposit of the fluid knowledge base. The three month period is proposed in order to comply with section 412, which requires filing of an application for registration within three months of publication to preserve the statutory damage and attorney fee remedies."

"Thus, it is seen that Copyright registration can be obtained for the fixed symbolic programming. The fluid knowledge [base] currently is not registrable. Hopefully, this will be changed shortly."

similar points

Since the

On the Whelan case broke new copyright law radically changing the scope of copyright protection accorded to computer software

"In the Whelan decision, for example, the file structures and other aspects of the architecture and information flow of the program ~~were~~ found copyright protectable.

File structures can be analogized to the files found in a manual filing system. The arrangement of these ~~files~~ file structures was found by the court of Appeals to be protected.

" Taken at face value, it appears that many aspects of the knowledge base and the inference engine will be protected under Copyright law, not only against literal copying but against the type of copying that occurred in the Whelan situation. It will be extremely

difficult from a practical point-of-view to advise clients as to where the zone of protected copyrighted technology ends. Since copyright protection comes into being as soon as a work is fixed in any tangible medium of expression, it can be appreciated that copyright law will take a very increased role in AI and expert system infringement situations."

The notice requirement for published works under the 1976 Copyright Act needs compliance

If an application is filed within three months of the date of first publication of the work, section 412 states that the statutory damages and attorney fee remedies are not lost with respect to infringements that occur after the creation of the work and before the filing of the application.

"Thus, with AI and expert systems having short product lives, it can be seen that copyright law may be more effective than patent law since

Copy. protectable rights come into being
as the work is created, and not
much as is the case under patent
law, rights come into existence only
when & application issues -

"Copy. protection is also very
inexpensive as compared to patent
protection.

"However, of the deterrent effect
against infringement of the copyright law
as effective as copyright law may not be
since treble damages
are not available. somewhat more courts in my opinion will have
than the patent applying the copyright law
context. This is to AI and expert system
of copyright law in the newers of the use
in context.

"The Whelan case
concerning how a party significant questions
engineering activities. Here, in legal reverse
engineering will have an related to reverse
expert system industry since on the AI and
by the industry.

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has not taken legal protection seriously since it was developed in academic environments where ideas are freely exchanged and technology is not protected.

A reverse engineering approach called the clean room is used as a mechanism to avoid copyright infringement in the development of a compatible software product. The idea behind the

clean room from a copyright point of view is that it limits access to the protected software program used in the reverse engineering process only to those aspects of the protected product that are idea/public domain.

The clean room technique requires two teams, one team receiving a lawfully obtained copy of a protected work and decompiling it -- producing a document setting forth ideas and specifications that are in the ~~pro~~ unprotected idea domain.

This document is then passed on to the second team -- ^{with no} ~~other~~ ^{other} communication --

which will create a new software product -- that does not infringe on the originally protected work.

Sterne explained that "this reverse engineering process was used successfully by many of the micro computer manufacturers that have made clones of IBM and Apple computers.

"It is believed that the companies that literally copied Apple and IBM BIOS were the only ones that were sued, and that Apple and IBM did not go after the companies using the clean room method to generate BIOS since they were afraid of an adverse legal outcome.

On Sept. 22, 1986,

In ~~the~~ NEC. v. Intel, Judge Ingram ruled that Intel's microcode in its 8080 Series microprocessors was copyrightable. He set down for trial the issue of whether any of NEC's microcode developed using a clean room technique was a copyright infringement of Intel's microcode.

Trade Secret Protection

[to] "Trade secret protection is equally as applicable to the protection of AI and expert systems as it is to software in general.

Trademark Protection

"Trademark protection may also be important," Stein said, "particularly if the mark becomes well known and enjoys a high reputation.

Contract Law

"Contract law may also provide additional modes of protection through the sales and lease agreements that are utilized with the AI and expert system technology."

Optimal Scheme For

"First trade secret and copyright law should always be used if available. In addition, patent law should be seriously considered, particularly if the invention is a major advance and the product life is long.

In some cases, legal protection of the technology
is fundamentally ~~and~~ restrictive

but AI + expert systems is coming out of the
laboratory and into the marketplace -

The profit motive -- and therefore ^{legal} protection --
may do more for the dissemination of AI and
expert system technology than any other factor

1. Patent
2. Copyright
3. Trade Secret
4. Trademark
5. Contract Law

is the first lecture ever on how to apply the 5 various modes
of intellectual property protection to protect this revolutionizing technology

Definite trend towards legal protection
a backlash in the AI + Expert System
Community

radically altering the way the technology
evolves and how it is controlled
Significant questions

Copyright law more effective
Copyright law will take a very increased
role in AI + Expert System Defending
situations

raising unique legal questions
\$2 billion

Robert Greene Slerve, a Wash. D.C. attorney
specializing in intellectual property involving computer-
related technology.

The trends also include a major problem between ~~any~~ patent & copyright law

Brain

The definite trends towards legal protection of artificial intelligence and expert system technology will create major legal problems and radically alter the way AI evolves and how it is controlled according to one of the nation's top legal specialists!

These trends include a predicted backlash from the AI community itself, particularly the academic arena, since legal protection will inhibit intellectual freedom and spark restrictions that presently do not exist.

* In ~~one~~ the first lecture ever on how to apply the five various modes of intellectual property protection for AI technology, Robert Greene Sterne Washington attorney

Since AI and expert system technology is ~~forecasted to be~~ predicted to be a \$2 billion industry by 1990, Washington attorney Robert Greene Sterne expects the profit motive to eventually be more important to the growth & development of AI than any other factor. The profit motive inherently requires protection under ~~either~~ patent

~~legal~~ a number of legal umbrella patent law, copyright, ~~trademark~~ ^{secret}, trademark and contract law.

All are important

On top of that, very little case law exists in the field. The very nature of AI

¶ "It is a toss up as to whether patent or copyright law is the most significant mode of intellectual property protection for artificial intelligence and expert system technology. While it is a close call, I believe that patent protection is more important, even though the recent *Whelan* decision from the Third Circuit seems to have significantly expanded the scope of copyright protection for software related technology."

Greene explained to a group of experts in the field recently that "I know from my discussions with academics that they believe that legal protection of the technology is fundamentally bad since it radically alters the way the technology has been developed in the past since it creates restrictions that presently do not exist."

Though Patent law may be more critical with a deterrent against infringers, Sterne explained that ~~copyright~~ ^{patents} Copyright law may be more effective ^{exp} ~~by~~ generally

The average patent takes nearly 3 years to issue,

According to Sterne's firm survey.

Copyright protections "come into being as soon as the work is created." ~~under patent law rights come~~ Sterne said. Under patent law, rights "come into existence only when a patent application issues." Copyright law is also very inexpensive.

"However," Sterne said, "in terms of the deterrent effect against infringers, copyright law may not be as effective as patent law since Treble damages are not available and courts in my opinion will have somewhat more difficulty applying the Copyright law than the patent law to the AI and expert system context. This is due to the newness of the use of the copyright law in the software context."

+
copyright law to take
"a very increased role" in AI and
a result of an August 4, 1986 decision from
Philadelphia's Third Circuit which he referred to
as the Whelan Case.

"The Whelan is extremely significant," ~~Stern~~ said,
"since it breaks new copyright law."

What makes the Whelan case significant is the
rule set down by the Third Circuit, he said. "The Court
in deciding how to draw the line of demarcation
between the protected expression of the program and the
unprotected ideas stated that any aspect of the
computer program that is not necessary for the purpose
~~Only those aspects~~ of the program is copyright protected.

In other words, only those aspects
of the program that are necessary for the purpose
of function of the program are unprotected."

Software-based

Regarding patent law, the most negative aspect
described by Stern is the pendency period. In an
analysis of 119 patents, the average pendency
period was $32\frac{1}{2}$ months. The longest took 92 months
and shortest was 8 months.

"The pending period is of particular interest when one considers the short life span of many high technology products," Steine said. ①

Still, Steine predicted a significant increase in the number of patents issuing in AI and expert system technology. "I think it's if it fair to say that the large computer companies are taking a very aggressive position in obtain patents in this area of technology. It behooves smaller companies or companies that are less informed to carefully monitor what their competitors are doing."

Satellite Search & Rescue

SARSAT

Search & Rescue Satellite-Aided Tracking

- carried on U.S. satellites
- Canada provides transponders; France the receiver/processors
 - The Soviet equipment is COSPAS, an abbreviation in Russian for Space System for Search of Vessels in Distress

Calls : ① NASA

② Canadian Dept. of Communication

③ International Civil Aviation Organization

169-7800

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102880
201-506-9025

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Jillian
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FAA Proposes Changes To Repair Stations

Avionics Rating

FAA "Radio rating" is expected to change
To "Avionics" rating
=====

Calls: FAA. Barbara Crawford
267-3780

See Weston not in until 1/4/90
267-8283.

Logistics person

— 4 public meetings — last one held 12/12/89 and
Chris. Director 12/13/89.

To



→ Harold Camden

FAA Bldg.
800 Independence Ave

• 267-3806
HOTTEST ISSUES.
Class rating

Minutes might be
available.

There was a specific avionics speaker.
KLM.

Aeronautical Repair Station Association

European Aviation Association.

FAA.

Computer



"You'll be lucky if you see these changes in by '92"

Camden

Everybody feels that we need to do something with
it.

We didn't get as much opposition as we thought we'd
Opposition is good. It makes for a good meeting.

Barbara Crawford

s

7th & Indep

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owned by 5 major US-
aviation companies.

Host. Delta Airlines of AVIONICS MAINTENANCE

expect a turnout of 500.

Program coming out 6 weeks before the meeting

Tues thru Thursday.

Larry is sending me 3 ^{issues.} ~~copies~~ of ARINC newsletter.

Story Jan 15 Interview

Boston. ~~Development~~ air traffic growth must be contained, says a top
air space expert, until technology
can catch up ~~the~~ be applied.

International air traffic across the Pacific is
expected to quadruple ~~within~~ a decade and air
traffic between Europe and Asia will triple all within
the next 10 years but air space management requires
a global approach optimizing all available resources,
according to Capt. Robert G. Buley, Mgr of Hi.

For Monday - Jan 8

Prepare presentation for Phillips -

Call Ed Smariga / meeting Jan 19

Dan Cotter re meeting early in week. ←

Finish Avionics readings and prepare stories, and back up for other Defense pubs

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He doesn't make false actorish moves;
his humor and energy go beyond his roles and
comment on them, indicating a stronger
character — a man living as a juvenile
intuitive master of new technique, non actorish readings
& minimal gesture, naturally wary of about any
inflation of feeling

+
u.s.